

Movements of the Ocean (Part 1)

Grade: 9th

Subject: Earth Science

Date:

Apr 1-10:08 AM

Bellringer

- Write a list of words that you think of when you imagine movements of ocean water.
- tides? / waves, whitecaps, tsunami, rough, calm, ocean life, minerals flowing, upwelling, current.
- What causes ocean currents? Explain.
moon, Coriolis effect, density.
- Are there different types of ocean currents? Explain.
- warm, cold, upwelling, surface, deep ocean
- ↑ wind

Apr 2-10:43 AM

1 Which of the following causes gyres to form?

- A deep currents
- ☒ B the Coriolis effect
- C the Equatorial Countercurrent
- D West Wind Drift

Apr 1-10:10 AM

2 One of the characteristics of the Antarctic Bottom Water is....

- A warmth
- B low salinity
- ☒ C high density
- D swiftness

Apr 1-10:10 AM

3 Which of the following factors does NOT control the movement of surface currents?

- ☒ A salinity
- ☐ B location of the continents
- ☐ C Earth's rotation
- ☐ D winds

Apr 1-10:11 AM

4 High evaporation and low rainfall in summer cause the Mediterranean Sea to have...

- ☐ A lower salinity and higher density
- ☒ B higher salinity and higher density
- ☐ C lower salinity and higher turbidity
- ☐ D lower salinity and lower density

Apr 1-10:12 AM

5 A vast area of calm, warm water in the North Atlantic is the ...

- A North Atlantic Gyre
- B Gulf Stream
- C Antarctic Bottom Water
- ☒ D Sargasso Sea

Apr 1-10:13 AM

6 The global wind belt located in the middle latitudes are the westerlies.

Apr 1-10:16 AM

- 7 The trade winds are located just north and south of the equator.

Apr 1-10:16 AM

- 8 The warm Atlantic current flowing north along the eastern coast of the United States is the _____.

Gulf Stream

Apr 1-10:18 AM

Bellringer

→ What is a cladogram?



→ What are ancestral and derived traits?

How are they used in phylogenetic trees?

→ What are two conditions that lead to adaptive radiation?
reduced bottleneck, founder effect

→ Differentiate between allopatric and sympatric speciation. → Grand Canyon Squirrels

→ What are the conditions of Hardy-Weinberg?

→ For alleles D and d, D have a frequency of

0.2. What is the % of heterozygotes?

$p + q = 1$
 $p^2 + 2pq + q^2 = 1$
 $2(0.8) \rightarrow .32$

Apr 2-11:46 AM

Part 2 Movements of the Ocean

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Apr 1-10:20 AM

1 Two consecutive wave crests pass a given point in one...

- A wavelength
- B swell
- ☒ C wave period
- D trough

Apr 1-10:22 AM

2 Waves strike the coastline head-on instead of at an angle as a result of...

- A undertow
- B longshore currents
- C fetch
- ☒ D refraction

Apr 1-10:23 AM

3 The factors that determine the size of a wave are wind speed, fetch, and ...

- ☒ A the length of time the wind blows
- B water temperature
- C water salinity
- D amount of sediment on the ocean floor

Apr 1-10:25 AM

4 A current that forms sandbars is called a(n) ...

- A undertow
- B rip current
- ☒ C longshore current
- D turbidity current

Apr 1-10:26 AM

5 Larger waves grow larger because...

- A they have higher crests
- ☒ B they get more energy from the wind
- C they have less friction
- D they do not have troughs

Apr 1-10:29 AM

6 A _____ moves in a group of long, rolling waves.

swell

Apr 1-10:29 AM

7 A _____ forms when the top of a wave topples over.

breaker


Apr 1-10:30 AM

8 When the wind blows off the crest of a wave, a _____ forms.

whitecap

Apr 1-10:32 AM

Bellringer

- What causes tides?
the moon, → sun (very little)
- Describe what causes low and high tides?

- How often do tidal changes occur?

Apr 7-10:49 AM

Apr 7-11:15 AM

Tides Review

Grade: 9th

Subject: Earth Science

Date:

Apr 7-9:31 AM

1 The major cause of tides is the...

A Earth's rotation →

☒ B gravitational pull of the moon on Earth and its waters

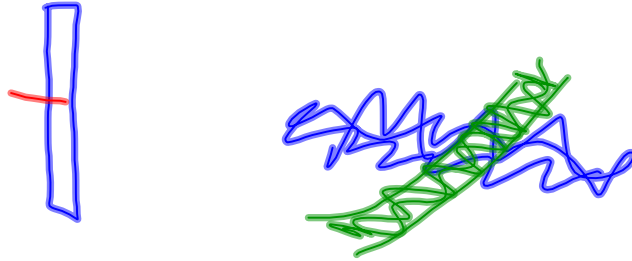
C Earth's revolution around the sun

D Tidal bulge of Earth

Apr 7-9:32 AM

2 Where would a tidal bore occur?

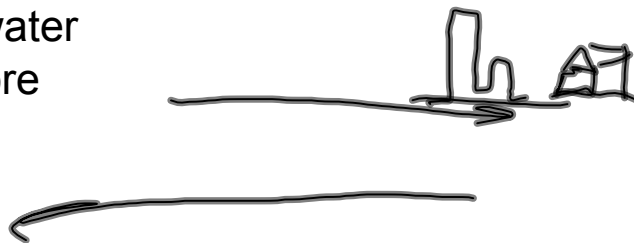
- A in the middle of the ocean
- B on a shoreline
- C in an enclosed sea
- ☒ D where a river enters the ocean



Apr 7-9:34 AM

3 The tidal current that flows toward the ocean is called...

- ☒ A ebb tide
- B flood tide
- C slack water
- D tidal bore



Apr 7-9:35 AM

4 The Mediterranean Sea has a small tidal range because...

- A tidal oscillations amplify the effects of tidal bulges
- B it has no tidal oscillations
- ☒ C tidal oscillations reduce the effect of tidal bulges
- D it has no tidal current

Apr 7-9:36 AM

5 If high tide today occurs at 4 pm, at about what time will the high tide occur tomorrow?

- A 4:00 am
- B 3:10 pm
- C 4:25 pm
- ☒ D 4:50 pm

Apr 7-9:38 AM

6 A tide that occurs during the first and third quarter phases of the moon is called a neap tide.

Apr 7-9:39 AM

7 The Spring tide occurs during the full and new moon.

Apr 7-9:40 AM

8 The movement of water toward and away from the coast is called _____.

tidal current

Apr 7-9:40 AM

Apr 8-11:15 AM